

CLAIMS:

1. A mutant kanamycin nucleotidyltransferase having one or more point mutations selected from a group consisting of Met57Leu, Ala62Val, Ser94Pro, Ser203Pro, Asp206Val, His207Gln, Ser220Pro, Ile234Val and Thr238Ala as against the protein comprising the amino acid sequence indicated by SEQ ID NO: 1, and having improved thermostability.
2. A mutant kanamycin nucleotidyltransferase with improved thermostability, wherein it comprises the amino acid sequence indicated by SEQ ID NO: 2.
3. The kanamycin nucleotidyltransferase according to claim 1, wherein it comprises the amino acid sequence indicated in SEQ ID NO: 3.
4. A kanamycin nucleotidyltransferase gene encoding the kanamycin nucleotidyltransferase according to any one of claims 1 to 3.
5. A plasmid comprising the gene according to claim 4.
6. A transformant comprising the plasmid according to claim 5.
7. A selective marker for thermophilic bacteria wherein it is the gene according to claim 4.
8. A method for screening thermophilic bacteria, wherein it the selective marker according to claim 7 is used.
9. The screening method according to claim 8, wherein said thermophilic bacteria is *Thermus thermophilus*.